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EXAMINER	
BODDIE, WILLIAM	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 09/935,249	Applicant(s) BARON ET AL.	
	Examiner WILLIAM L. BODDIE	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-9 and 11-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-9 and 11-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In an amendment dated April 14th, 2009, the Applicants amended claims 1, 4, 9, 13, 20. Currently claims 1-4, 6-9 and 11-20 are currently pending.

Claim Objections

2. Claim 20 is objected to because of the following informalities: lines 10-11 read in part, “and at using at least one of the acceleration sensors.” This phrasing is incorrect grammatically. The first instance of "at” appears to be a typo. Appropriate correction is required.

Response to Arguments

3. Applicant's arguments with respect to claims 1-4, 6-9 and 11-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3, 6-9, 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feinstein (US 6,466,198) in view of Thomas (US 6,567,101) and further in view of House et al. (US 5,878,283).

With respect to claim 1, Feinstein discloses an electronic device (fig. 2), comprising:

at least one acceleration sensor (82-84, 432 in fig. 14) capable of detecting an acceleration motion of said device along at least one axis and generating an acceleration signal in response (col. 13, lines 13-40);

a display that includes moving a graphical image that is capable of being moved in said display (fig. 1a-c)

a processor (100 in fig. 8) communicating with said at least one acceleration sensor and said display (12 in fig. 8);

wherein said processor receives said acceleration signal and moves said graphical image in response to said acceleration signal (for example; figs. 3a-b; fig. 1a-c);

a memory communicating with said processor and storing a predetermined threshold (Feinstein; col. 7, line 63 – col. 8, line 14) and said graphical image is moved in response to said acceleration signal only if said acceleration signal exceeds said predetermined threshold (col. 9, lines 4-7, 17-22; figs. 7a-d); and

an acceleration monitor configured to monitor an output of the at least one acceleration sensor (82-84, 432 in fig. 14) and determine an acceleration duration (length of pulse 192 in fig. 7c, for example), wherein the acceleration duration is used to control single incremental movements of the graphical selection indicator (fig. 7d shows that the view navigation is directly controlled by the duration of the acceleration; this is evident by the appearance of ramps, indicating movement, only during the duration of acceleration; furthermore the waveform in fig. 7d also discloses the incremental movement in the navigation ramps set apart with flat periods of no movement).

Feinstein does not expressly disclose an image capturing device, a user-adjustable predetermined threshold, nor moving a graphical selection indicator in response to the acceleration signal.

Thomas discloses a graphical selection indicator (cursor, 506 in fig. 5a-e) that moves in response to an acceleration signal (col. 3, lines 37-42, col. 6, line 66 - col. 7, line 59) and is capable of being moved in said display to select from among a plurality of displayed icons (col. 3, lines 42-44, col. 1, lines 14-18).

Thomas and Feinstein are analogous art because they are both from the same field of endeavor namely accelerometer based user interfaces.

At the time of the invention it would have been obvious to one of ordinary skill in the art to control a cursor as taught by Thomas in the device of Feinstein, for the benefit of additional interaction between the user and the device via the accelerometers.

Neither Thomas nor Feinstein expressly disclose that the device is an image capturing device nor a user-adjustable predetermined threshold for the acceleration sensor.

House discloses, an image capturing device (fig. 1; for example), comprising an acceleration sensor (col. 9, lines 44-47) and camera features and utilities are activated in response to an acceleration signal (abstract; col. 9, lines 59-62) only if the acceleration signal exceeds a user-adjustable predetermined threshold (col. 9, lines 51-59).

Thomas, Feinstein and House are analogous art because they are all from the same field of endeavor namely accelerometer based user interfaces.

At the time of the invention it would have been obvious to one of ordinary skill in the art to use the devices of Feinstein and Thomas in an image capturing device with a user-adjustable predetermined threshold as taught by House.

The motivation for doing so would have been to avoid false alarms and activations (House; col. 9, lines 51-54).

With respect to claim 2, Feinstein, Thomas and House disclose, the device of claim 1 (see above).

Feinstein further discloses, wherein said device further comprises three acceleration sensors, with each sensor being positioned along a unique axis of three substantially orthogonal axes (X, Y and Z axis sensors 82-84, 432 in fig. 14).

With respect to claim 3, Feinstein, Thomas and House disclose, the device of claim 1 (see above).

Feinstein further discloses, wherein said at least one acceleration sensor comprises a three-axis acceleration sensor (col. 13, lines 58-59).

With respect to claim 6, Feinstein, Thomas and House disclose, the device of claim 1 (see above).

Feinstein, when combined with Thomas and House, further discloses, a memory communicating with said processor and storing a slew rate variable, wherein a movement speed of said graphical selection indicator is controlled by said slew rate (Feinstein; col. 7, lines 56-63; col. 9, lines 31-33; col. 8, lines 15-51; col. 9, lines 15-18, for example).

With respect to claim 7, Feinstein, Thomas and House disclose, the device of claim 1 (see above).

Feinstein further discloses, a memory communicating with said processor and storing an enable variable, wherein said processor moves said graphical selection indicator in response to said acceleration signal only if said enable variable is set to an enable state (col. 6, lines 40-58).

With respect to claim 8, Feinstein, Thomas and House disclose, the device of claim 1 (see above).

Feinstein further discloses, a select switch (62, 64 in fig. 4), wherein said processor moves said graphical selection indicator in response to said acceleration signal only if said select switch is set to an enable state (col. 6, lines 40-58).

With respect to claim 9, Feinstein discloses an electronic device (fig. 2), comprising:

an acceleration sensor (82-84, 432 in fig. 14) means for detecting an acceleration motion of said device along at least one axis and generating an acceleration signal in response (col. 13, lines 13-40);

a display that includes moving a graphical image that is capable of being moved in said display (fig. 1a-c)

a processor (100 in fig. 8) communicating with said display (12 in fig. 8) and receiving said acceleration signal (output of 88, 86 in fig. 8);

a memory communicating with said processor and storing a predetermined threshold (col. 7, line 63 – col. 8, line 14) and storing a slew rate variable (col. 9, lines 4-7, 17-22; figs. 7a-d);

wherein said processor receives said acceleration signal and moves said graphical image in response to said acceleration signal (for example; figs. 3a-b; fig. 1a-c), and wherein a movement speed of said graphical selection indicator is controlled by said slew rate (fig. 7a; col. 8, lines 19-28);

an acceleration monitor configured to monitor an output of the at least one acceleration sensor (82-84, 432 in fig. 14) and determine an acceleration duration (length of pulse 192 in fig. 7c, for example), wherein the acceleration duration is used to control single incremental movements of the graphical selection indicator (fig. 7d shows that the view navigation is directly controlled by the duration of the acceleration; this is evident by the appearance of ramps, indicating movement, only during the duration of acceleration; furthermore the waveform in fig. 7d also discloses the incremental movement in the navigation ramps set apart with flat periods of no movement); and

a sensor configured to detect angular displacement of the image capturing device (fig. 2).

Feinstein further discloses that “various other sensors can be used" (col. 15, lines 3-6).

Feinstein does not expressly disclose an image capturing device, a user-adjustable predetermined threshold, a force sensor, nor moving a graphical selection indicator in response to the acceleration signal.

Thomas discloses a graphical selection indicator (cursor, 506 in fig. 5a-e) that moves in response to an acceleration signal (col. 3, lines 37-42, col. 6, line 66 - col. 7, line 59) and is capable of being moved in said display to select from among a plurality of displayed icons (col. 3, lines 42-44, col. 1, lines 14-18); and

a force sensor configured to detect angular displacement of a device (col. 4, lines 34-38; col. 8, lines 26-29).

Thomas and Feinstein are analogous art because they are both from the same field of endeavor namely accelerometer based user interfaces.

At the time of the invention it would have been obvious to one of ordinary skill in the art to control a cursor as taught by Thomas in the device of Feinstein, for the benefit of additional interaction between the user and the device via the accelerometers.

Neither Thomas nor Feinstein expressly disclose that the device is an image capturing device nor a user-adjustable predetermined threshold for the acceleration sensor.

House discloses, an image capturing device (fig. 1; for example), comprising an acceleration sensor (col. 9, lines 44-47) and camera features and utilities are activated in response to an acceleration signal (abstract; col. 9, lines 59-62) only if the acceleration signal exceeds a user-adjustable predetermined threshold (col. 9, lines 51-59).

Thomas, Feinstein and House are analogous art because they are all from the same field of endeavor namely accelerometer based user interfaces.

At the time of the invention it would have been obvious to one of ordinary skill in the art to use the devices of Feinstein and Thomas in an image capturing device with a user-adjustable predetermined threshold as taught by House.

The motivation for doing so would have been to avoid false alarms and activations (House; col. 9, lines 51-54).

With respect to claim 11, Feinstein, Thomas and House disclose, the device of claim 9 (see above).

Feinstein further discloses, said memory further storing an enable variable, wherein said processor moves said graphical selection indicator in response to said acceleration signal only if said enable variable is set to an enable state (col. 6, lines 40-58).

With respect to claim 12, Feinstein, Thomas and House disclose, the device of claim 9 (see above).

Feinstein further discloses, a select switch (62, 64 in fig. 4), wherein said processor moves said graphical selection indicator in response to said acceleration signal only if said select switch is set to an enable state (col. 6, lines 40-58).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Feinstein (US 6,466,198) in view of Thomas (US 6,567,101) and House et al. (US 5,878,283) and further in view of Dance (US 6,937,272).

With respect to claim 4, Feinstein, Thomas and House disclose, the device of claim 2 (see above).

Feinstein further discloses at least one of the acceleration sensors detect and respond to pivoting motions non-linear accelerations (detection of pitch and roll, pivoting motions, col. 7, lines 41-45; 38, 34 in fig. 2).

Neither Feinstein, Thomas nor House expressly disclose that the acceleration sensors are aligned with a camera lens.

Dance discloses, three acceleration sensors (70, 82 in figs. 6-7) aligned along a unique axis, wherein one of the axes is aligned with a camera lens of the image capturing device (26 in fig. 1) and at least one of the acceleration sensors detect and respond to pivoting motions non-linear accelerations.

Dance, Thomas, Feinstein and House are analogous art because they are all from the same field of endeavor namely accelerometer based user interfaces.

At the time of the invention it would have been obvious to one of ordinary skill in the art to use the devices of House, Feinstein and Thomas in an image capturing device with a sensor aligned with the camera lens.

The motivation for doing so would have been to provide a highly intuitive manner of operation (Dance; col. 2, lines 10-13).

7. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dance (US 6,937,272) in view of Feinstein (US 6,466,198) and Thomas (US 6,567,101) and further in view of House et al. (US 5,878,283).

With respect to claim 13, Dance discloses, a navigation method for an image capturing device (fig. 1), comprising the steps of:

displaying a plurality of mode variables (each graphical icon in 32 in fig. 5b is seen as a mode variable);

detecting an acceleration with an acceleration sensor of said image capturing device and generating an acceleration signal in response (col. 5, line 38 – col. 6, line 15);

moving a graphical selection (which icon in 32 is deemed to be centered in fig. 5b) among a plurality of mode variables (col. 4, lines 57-67); and

storing a predetermined threshold, wherein said graphical selection is moved in response to said acceleration signal only if said acceleration signal exceeds said predetermined threshold (col. 5, lines 43-50).

Dance does not disclose a graphical selection indicator, a user-adjustable threshold, nor monitoring the acceleration duration.

Feinstein discloses, detecting an acceleration with an acceleration sensor (82-84, 432 in fig. 14) of said device and generating an acceleration signal in response (col. 13, lines 13-40);

moving a graphical image in response to said acceleration signal (fig. 1a-c);

monitoring an output of the at least one acceleration sensor (82-84, 432 in fig. 14) and determine an acceleration duration (length of pulse 192 in fig. 7c, for example);

using the acceleration duration to control single incremental movements of the graphical selection indicator (fig. 7d shows that the view navigation is directly controlled by the duration of the acceleration; this is evident by the appearance of ramps, indicating movement, only during the duration of acceleration; furthermore the waveform

in fig. 7d also discloses the incremental movement in the navigation ramps set apart with flat periods of no movement).

Feinstein and Dance are analogous art because they are from the same field of endeavor namely user interface designs and systems.

At the time of the invention it would have been obvious to one of ordinary skill in the art to monitor the acceleration duration as taught by Feinstein in the device of Dance for the benefit of achieving exact view navigation (Feinstein; col. 9, lines 23-33).

Neither Feinstein nor Dance expressly disclose a graphical selection indicator.

Thomas discloses detecting an acceleration with an acceleration sensor of a device and generating an acceleration signal in response (col. 4, lines 39-46, for example);

moving a graphical selection indicator (cursor 506) in response to the detected acceleration signal (col. 4, lines 39-46).

Thomas, Feinstein and Dance are analogous art because they are from the same field of endeavor namely user interface designs and systems.

At the time of the invention it would have been obvious to one of ordinary skill in the art to substitute the acceleration signal manipulation taught by Thomas in the device of Dance and Feinstein for the benefit of increasing the volume and surface area of a device.

Neither Feinstein, Dance nor Thomas expressly disclose storing a user-adjustable predetermined threshold.

House discloses, an image capturing device (fig. 1; for example), storing (the threshold must inherently be stored for the device to compare the movement to a threshold) a user-adjustable predetermined threshold (col. 9, lines 51-59), wherein camera features and utilities are activated in response to an acceleration signal (abstract; col. 9, lines 59-62) only if the acceleration signal exceeds a user-adjustable predetermined threshold (col. 9, lines 51-59).

Feinstein, Thomas, Dance and House are analogous art because they are all from the same field of endeavor namely user interface designs and systems.

At the time of the invention it would have been obvious to one of ordinary skill in the art to use the devices of Feinstein, Dance and Thomas in an image capturing device with a user-adjustable predetermined threshold as taught by House.

The motivation for doing so would have been to avoid false alarms and activations (House; col. 9, lines 51-54).

With respect to claims 14-15, Thomas, Feinstein, Dance and House disclose, the method of claim 13 (see above).

Dance, when combined with Thomas and House, further discloses, wherein the detecting step comprises detecting an acceleration magnitude and direction (Thomas; col. 4, lines 39-43).

With respect to claims 16-18, Thomas, Feinstein, Dance and House disclose, the method of claim 13 (see above).

Dance further discloses, wherein the detecting step comprises detecting vertical and horizontal pivoting motion and horizontal rolling motion (col. 3, lines 32-38; col. 4, line 58 - col. 5, line 11)

With respect to claim 19, Thomas, Feinstein, Dance and House disclose, the method of claim 13 (see above).

Dance, when combined with Thomas and House, further discloses, the detecting step further comprises detecting accelerations along three substantially orthogonal axes (Dance; 70 and 82 in figs. 6-7).

With respect to claim 20, Thomas, Feinstein, Dance and House disclose, the method of claim 13 (see above).

Dance, when combined with Thomas, Feinstein and House, further discloses providing at least three acceleration sensors (Dance; 70 and 82 in figs. 6-7), with each sensor being positioned along a unique axis of three substantially orthogonal axes (Dance; X, Y, Z axis in figs. 1, 6-7) aligning one of the axes with a camera lens of the image capturing device (Dance; 26 in fig. 1); and at

using at least one of the acceleration sensors to detect and respond to pivoting motions non-linear accelerations (Feinstein; detection of pitch and roll, pivoting motions, col. 7, lines 41-45; 38, 34 in fig. 2).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM L. BODDIE whose telephone number is (571)272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629

/W. L. B./
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7/14/09